

Attorney Docket No.: **740.013US3 (IU-0030)**  
Inventors: **Kwon, Byoung S.**  
Serial No.: **10/027,199**  
Filing Date: **December 20, 2001**  
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This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): An isolated nucleic acid molecule ~~encoding for~~ comprising a nucleotide sequence that encodes the extracellular domain of a human receptor protein H4-1BB comprising of SEQ ID NO:2.

Claim 2 (currently amended): ~~The~~ An isolated nucleic acid molecule ~~of claim 1~~ having a nucleotide sequence comprising SEQ ID NO:1.

Claim 3 (currently amended): The isolated nucleic acid molecule of ~~claim 1~~ claim 2, identified as pH4-1BB deposited at the Agricultural Research Service Culture Collection with the accession number NRRL B21131.

Claim 4-18 (canceled).

Claim 19 (currently amended): An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

- a) ~~nucleotides of H4-1BBFI (SEQ ID NO:3);~~
- b) ~~nucleotides of H4-1BBFII (SEQ ID NO:4);~~
- c) ~~nucleotides of H4-1BBRI (SEQ ID NO:5);~~
- d) ~~nucleotides of H4-1BBRII (SEQ ID NO:6);~~
- e) ~~nucleotides of SEQ ID NO:7;~~

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~~f) nucleotides of SEQ ID NO:8;~~

g) a) nucleotides of a DNA encoding a soluble human 4-1BB polypeptide comprising the extracellular domain of human 4-1BB (amino acids 1-186 of SEQ ID NO:2) or a fragment of the extracellular domain capable of binding a 4-1BBL; and

h) b) nucleotides of subparagraph g) a) wherein said DNA additionally encodes a polypeptide that is not a human 4-1BB polypeptide and which is located C-terminal to the extracellular domain of human 4-1BB polypeptide.

Claim 20 (currently amended): ~~An~~ The isolated nucleic acid molecule ~~encoding a human 4-1BB polypeptide, wherein said molecule comprises a nucleotide sequence selected from the group consisting of of claim 1 comprising:~~

a) nucleotides 41-805 of SEQ ID NO:1; and or  
b) nucleotides 41-598 of SEQ ID NO:1.

Claim 21 (currently amended): A recombinant expression vector comprising the nucleic acid molecule of claim 19 g) a), 19 h) b), or 20 operably linked to regulatory sequences suitable for expression of the nucleic acid molecule in a host cell.

Claim 22 (previously presented): A recombinant expression vector comprising a recombinant nucleic acid molecule comprising a nucleic acid segment encoding SEQ ID NO:2 or the extracellular domain thereof operably linked to regulatory sequences suitable for expression of the nucleic acid segment in a host cell.

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Claim 23 (currently amended): The recombinant expression vector of claim 22 wherein the recombinant nucleic acid molecule further comprises a nucleic acid segment that encodes a polypeptide that is no SEQ ID NO:2 or the extracellular domain thereof which is neither SEQ ID NO:2, nor the extracellular domain thereof, and which is located C-terminal to SEQ ID NO:2 or the extracellular domain thereof.